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South Carolina Department of Health and Environmental Control

MEMORANDUM

TO: Laboratories / Generators / Consultants / Others

FROM: Brice Howard Moseley
Waste Assessment Section
Bureau of Land and Waste Management

DATE: January 4, 2001

SUBJECT: Method 1311, TCLP Extract, Correlated with Variable Detection Levels According to Rationale for Testing

REFERENCE: An Inquiry- Why Does the Department Require Different Reportable TCLP Detection Levels (PQL's, RDL's) for Solid Wastes.

INTRODUCTION

Inquiries indicate that some people don't realize some of the following criteria:

1) That reportable TCLP Detection Limits (PQL's, RDL's) for solid wastes vary according to the regulation that applies.

2) There appears to be some confusion pertaining to how to apply the regulations applicable to R.61-107 (Industrial Landfill Classification).

3) That the Data Reporting Forms are interchangeable according to which constituents the Generator determines are applicable for a proper waste status determination.

4) Finally, the Pollution Control Act applies as a supplement to any analytical constituents applicable to any regulation or Form.

MESSAGE

1) Detection Levels- TCLP Reportable Detection Levels (RDL's)

The detection levels may vary for analyzed solid waste according to the facility-required rationale for testing. For example, if the rationale is to determine the potential for groundwater contamination, then the RDL's would be the MCL's. If the rationale for testing is to determine an Industrial Landfill Classification, then the RDL's would be the MCL x 10, 20 or 30. If the rationale is to determine whether a waste is hazardous or non-hazardous, then the RDL's would be the MCL x 100. Which detection level to use would be according to which regulation is applicable: R.51-107, R.61-58.5, or R.261.24. This is where the Laboratory / Generator / Consultant apply knowledge as to the rationale for sampling and testing.

Some additional examples are as follows:

The Detection (PQL, RDL) Level of solid waste may be applicable to:

a) Remediation or Enforcement for solid waste contamination with the considered potential for groundwater contamination, (RDL- less than the MCL),
b) Industrial Landfill Classifications per R.61-107 (RDL- less than the MCL times 10, 20 or 30); and,
c) TCLP hazardous waste determinations (RDL- less than the MCL times 100).

Therefore, it is prudent that the Certified Laboratory, Generator, and the Consultants establish good communications, to confirm the correct purpose for the sampling and reporting of analytical data per the acceptable Analytical Data Reporting Form (i.e. SCDHEC Form 3658).

2) R.61-107 "Solid Waste Management: Industrial Solid Waste Landfills"

Yes, I agree with the assessment that some confusion may exist, especially pertaining to interpretation of the regulations if one is not very familiar with the regulation that applies. Thus one must understand the rationale for sampling and producing analytical results for Department review.

For example, in one case, suppose a facility must comply with R.61-107.16. “Solid Waste Management: Industrial Solid Waste Landfills”. Therefore, as a minimum, Paragraphs R.16.4.d and R.16.4.e of R.61-107.16. would apply. We will review those paragraphs of the regulation. Therefore, for your convenience, I have attempted to type the paragraphs as they appear in the regulation. I am not responsible for any errors in typing as this is for general information. Please secure the actual regulation R.61-107 for future references.

Paragraph 16.4d: “the toxicity characteristic leaching procedure (TCLP) (USEPA method1311), or equivalent methods approved by the Department under the procedures set forth in Section 16.4.k (equivalent methods) shall be used to obtain all extracts for the purpose of characterizing an industrial solid waste proposed for disposal in a industrial solid waste landfill. For the purpose of obtaining an extract that will be analyzed for any volatile organic compounds, a zero headspace extraction apparatus, as specified in the TCLP, shall be used. Detection limits for the analytical methods shall be below the Maximum Contaminant Level (MCL) published in the South Carolina DHEC R.61-58, State Primary Drinking Water Regulations, current at the time of permit application, when practically possible.”

Paragraph 16.4.e.: “For the initial characterization of industrial solid waste to be disposed in an industrial waste landfill, a minimum of two (2) representative samples of the waste shall be collected and tested in accordance with the TCLP procedure. TCLP testing of additional samples of the industrial solid waste may be required by the Department, based on a high degree of variability in the concentration of a parameter at or near the maximum allowable concentration for a particular landfill class. The Department may allow, with prior approval, the testing for selected constituents based on the Generator’s knowledge of the process.”

These paragraphs, in summary, document that regardless of which constituents are chosen for analytical testing of representative samples, the TCLP extract is used and the Detection Level is less then the MCL.

Note: An example (representing Paragraph 16.4.e.) would be the Department allowing the use of the RCRA TCLP constituents (for characterization of solid waste landfill for applicable classification) in lieu of the R.61-58.5 drinking water constituents (i.e. SCDHEC Form 3661which contains more analytical constituents than the RCRA-TCLP

SCDHEC Form 3658) or other constituents deemed necessary by the Department.

3) Analytical Data Reporting Forms are interchangeable, according to which constituents are selected via the rationale for sampling and testing wastes.

   Understand that the Forms can be interchangeable, as mentioned in the "Note" above. For example, the Form DHEC 3658 Industrial RCRA – TCLP Volatile is applicable to RCRA Volatile Organic Constituents whereas Form DHEC 3661 Industrial Volatile TCLP R.61-58.5 is applicable to Drinking Water Volatile Organic Constituents. However, one may use either the DHEC 3658 or 3661 Forms for volatile organic constituents, according to whether the generator (through knowledge-R.262.11) determines the additional constituents on Form 3661 are necessary for proper, accurate testing of solid waste.

   The detection level may be the same for either form (i.e. SCDHEC Form 3658 & SCDHEC Form 3661) according to the rationale for testing.

4) Pollution Control Act:

   Also, additional constituents should be added to the Analytical Testing portion of the Sample Plan based on knowledge of the process when the potential exists for violation of the Pollution Control Act (i.e. anything that is harmful to human health and the environment exists at the sample site). The same forms are used, but expanded to include those extra constituents of concern. Also, the RDL's remain the same as the other constituents applicable to the MCL's or concentrations based on health concerns.

   It is requested that anyone (Facility / Laboratory / Consultant / Others) considering testing for an unknown reason contact the permit engineer, enforcement personnel, or whichever SCDHEC personnel are responsible for the facility or site to be sampled.

   We plan to work with all parties to help in any manner we possibility can to assist in regulatory interpretation and / or explanation for the use

of any Forms (DHEC 3657, 3658, 3659, 3660, 3661, 3662, 3732 and 3733).

The forms are obtainable at our Web Site:

www.scdhec.net/lwm/html/downloads.html then select the forms you wish to use to report analytical data to the Department.

Thank you for your assistance. Please call me at 803-896-4126 if you have any questions.

[1]BLWM-TCLP Variable Detection Level